## **WEST Search History**

Hide Items Restore Clear Cancel

DATE: Monday, April 19, 2004

Hide?	Set Name	Query	<b>Hit Count</b>
	DB=PG	PB, USPT; PLUR=YES;	OP = OR
	L5	L4 and haemagglutinin	9
	L4	L3 and recombinant	53
	L3	L2 and bordetella	70
	L2	locht	151
	DB = USI	PT; PLUR=YES; OP=C	)R
	L1	6660261	1

END OF SEARCH HISTORY

First Hit Previous Doc Next Doc Go to Doc#

Generate Collection Print

L6: Entry 1 of 5

File: PGPB Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040047867

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040047867 A1

TITLE: Adjuvant composition comprising  $\overline{\text{FHA}}$  protein or a fragment of  $\overline{\text{FHA}}$  protein in its free form

PUBLICATION-DATE: March 11, 2004

#### INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Capron, Andre	Phalempin		FR	
Locht, Camille	Bruxelles		BE	
Menozzi, Franco	Mons-Hyon		BE	
Poulain-Godefroy, Odile	Lambersart		FR	
Riveau, Gilles	Phalempin		FR	

US-CL-CURRENT: 424/184.1

## CLAIMS:

- 1. Use of the  $\overline{\text{FHA}}$  protein or a functional equivalent thereof in its free form for the preparation of a composition adjuvanting the immune response.
- 2. Use of the  $\overline{\text{FHA}}$  protein or a functional equivalent thereof in preparing an immunostimulant composition.
- 3. Use of a sequence according to claim 1 or claim 2 obtained by conservative substitution of amino acids.
- 4. Use of a sequence according to claim 1 or claim 2 rendered resistant to proteolysis by replacing the peptide bond --CONH-- by a reduced bond --CH.sub.2NH--, a retroinverso bond --NHCO--, a methyleneoxy bond --CH.sub.2--, a thiomethylene bond --SH.sub.2--, a carba bond --CH.sub.2CH.sub.2--, a ketomethylene bond O-- CH.sub.2--, a hydroxyethylene bond --CHOH--CH.sub.2--, a --N--N bond, an E-alkene bond or a --CH.dbd.CH-- bond.
- 5. Use according to any one of the preceding claims in which the adjuvant is an amino acid sequence having a homology of at least 70% with  $\underline{\text{FHA}}$ .
- 6. A composition adjuvanting the immune response comprising the  $\underline{\text{FHA}}$  protein in its free form, or a derived sequence in accordance with one of claims 3 to 5.
- 7. An immunogenic composition, characterized in that it comprises an adjuvant according to claim 6, in association with an immunogenic molecule or with an antigen.

- 8. An immunogenic composition according to claim 7, characterized in that the weight ratio of the adjuvant and the immunogen is in the range  $10.\sup.-4$  to  $10.\sup.4$ , preferably in the range 0.03 to 300, and more preferably in the range 0.4 to 5.
- 9. An immunogenic composition according to claim 7, characterized in that the antigen is of bacterial, viral or parasitic origin.
- 10. An immunogenic composition according to claim 7, characterized in that the antigen is selected from <u>Bordetella</u>, Shigella, Neisseria, Borrelia antigens, or from diphtheria, tetanus or cholera toxins or toxoids.
- 11. An immunogenic composition according to claim 7, characterized in that the antigen is a viral antigen.
- 12. An immunogenic composition according to claim 7, characterized in that the antigen is a parasitic antigen, in particular of Plasmodium, Schistosoma or Toxoplasma.
- 13. A vaccine comprising an immunogenic composition according to one of claims 7 to 12, in association with a pharmaceutically acceptable vehicle.
- 14. A vaccine according to claim 13, characterized in that the vehicle is compatible with nasal administration.
- 15. A vaccine according to claim 13, characterized in that the vehicle is compatible with oral administration, subcutaneous administration or intravenous, intradermal or intramuscular administration.
- 16. A vaccine according to claim 13, characterized in that the vehicle is compatible with rectal, vaginal, ocular or auricular administration.
- 17. An immunostimulant composition containing  $\underline{FHA}$  or a functional equivalent thereof as the active principle and a pharmaceutically acceptable vehicle compatible with administration to man or to animals.
- 18. A composition according to claim 17, for oral administration.
- 19. A composition according to claim 17, for mucosal administration.

Previous Doc Next Doc Go to Doc#

## **Hit List**

Clear Generate Collection Print Fwd Refs Bkwd Refs

Generate OACS

Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 20040047867 A1

Using default format because multiple data bases are involved.

L6: Entry 1 of 5

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040047867

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040047867 A1

TITLE: Adjuvant composition comprising  $\underline{\text{FHA}}$  protein or a fragment of  $\underline{\text{FHA}}$  protein in

its free form

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

RULE-47 CITY STATE COUNTRY NAME FR Phalempin Capron, Andre Bruxelles BELocht, Camille Mons-Hyon BE Menozzi, Franco FR Poulain-Godefroy, Odile Lambersart FR Phalempin Riveau, Gilles

US-CL-CURRENT: 424/184.1

e Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawu D
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## ☐ 2. Document ID: US 6660261 B1

L6: Entry 2 of 5

File: USPT

Dec 9, 2003

US-PAT-NO: 6660261

DOCUMENT-IDENTIFIER: US 6660261 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Bordetella strain expressing the FHA hybrid, liposomes and vaccines

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Mielcarek; Nathalie Lille FR

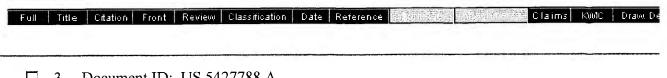
Locht; Camille Wannehain FR

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FR Lille Riveau; Gilles FR Poulain-Godefroy; Odile Lambersart FR Capron; Andre Phalempin

US-CL-CURRENT: 424/93.4; 424/184.1, 424/200.1, 424/203.1, 424/234.1, 424/242.1,

424/254.1, 424/93.2



## ☐ 3. Document ID: US 5427788 A

L6: Entry 3 of 5

File: USPT

Jun 27, 1995

Oct 26, 1995

US-PAT-NO: 5427788

DOCUMENT-IDENTIFIER: US 5427788 A

\*\* See image for Certificate of Correction \*\*

TITLE: Pertussis toxin and use in vaccines

DATE-ISSUED: June 27, 1995

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY NAME CITY

IT Rappuoli; Rino Quercegrossa-Monteriggioni IT Nicosia; Alfredo Siena IT Arico'; Maria B. Quercegrossa

US-CL-CURRENT: 424/190.1; 424/240.1, 424/254.1, 514/12

Full	Title	e Citation Fron	: Review	Classification	Date	Reference		Claims	KWIC	Draw De
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		Document ID								

File: EPAB

PUB-NO: WO009528486A2

L6: Entry 4 of 5

DOCUMENT-IDENTIFIER: WO 9528486 A2

TITLE: RECOMBINANT PROTEINS OF FILAMENTOUS HAEMAGGLUTININ OF BORDETELLA,

PARTICULARLY BORDETELLA PERTUSSIS, METHOD FOR PRODUCING SAME, AND USES THEREOF FOR

PRODUCING FOREIGN PROTEINS OR VACCINATING ACTIVE PRINCIPLES

PUBN-DATE: October 26, 1995

INVENTOR-INFORMATION:

NAME	COUNTRY
LOCHT, CAMILLE	FR
RENAULD, GENEVIEVE	FR
CAPRON, ANDRE	FR
RIVEAU, GILLES	FR
MENOZZI, FRANCO	BE

h e b b g ee e f ef b e c

JACOB-DUBUISSON, FRANCOISE

FR

INT-CL (IPC):  $\underline{\text{C12}}\ \underline{\text{N}}\ \underline{15/31};\ \underline{\text{C12}}\ \underline{\text{N}}\ \underline{15/62};\ \underline{\text{C07}}\ \underline{\text{K}}\ \underline{14/235};\ \underline{\text{C12}}\ \underline{\text{N}}\ \underline{1/21};\ \underline{\text{A61}}\ \underline{\text{K}}\ \underline{39/10}$ 

EUR-CL (EPC): C07K014/235

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KM/IC	Drawe D
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# 5. Document ID: ES 2202363 T3, FR 2718750 A1, WO 9528486 A2, AU 9524121 A, WO 9528486 A3, EP 755447 A1, EP 755447 B1, DE 69531200 E

L6: Entry 5 of 5

File: DWPI

Apr 1, 2004

DERWENT-ACC-NO: 1995-360592

DERWENT-WEEK: 200425

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TITLE: DNA encoding fusion protein of B.pertussis filamentous  $\frac{\text{haemagglutinin}}{\text{haemagglutinin}}$  and heterologous antigen - useful as vaccines having the same immunogenicity as  $\frac{\text{FHA}}{\text{partic}}$ . for nasal admin

INVENTOR: CAPRON, A; JACOB-DUBUISSON, F; LOCHT, C; MENOZZI, F; RENAULD, G; RIVEAU, G; MONOZZI, F

PRIORITY-DATA: 1994FR-0004661 (April 19, 1994)

#### PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2202363 T3	April 1, 2004		000	C12N015/31
FR 2718750 A1	October 20, 1995		058	C12N015/31
WO 9528486 A2	October 26, 1995	F	062	C12N015/31
AU 9524121 A	November 10, 1995		000	C12N015/31
WO 9528486 A3	January 11, 1996		000	C12N015/31
EP 755447 A1	January 29, 1997	F	000	C12N015/31
EP 755447 B1	July 2, 2003	F	000	C12N015/31
DE 69531200 E	August 7, 2003		000	C12N015/31

INT-CL (IPC): A61 K 39/10; C07 K 14/235; C12 N 1/21; C12 N 15/31; C12 N 15/62; C12 P 21/02; C12 N 1/21; C12 R 1:01; C12 N 1/21; C12 R 1:01; C12 R 1:0

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw.
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Previous Page

Next Page

Go to Doc#

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First Hit Fwd Refs Previous Doc Next Doc Go to Doc#

Generate Collection Print

L6: Entry 2 of 5

File: USPT

Dec 9, 2003

US-PAT-NO: 6660261

DOCUMENT-IDENTIFIER: US 6660261 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Bordetella strain expressing the FHA hybrid, liposomes and vaccines

DATE-ISSUED: December 9, 2003

#### INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mielcarek; Nathalie	Lille			FR
Locht; Camille	Wannehain			FR
Riveau; Gilles	Lille			FR
Poulain-Godefroy; Odile	Lambersart			FR
Capron; Andre	Phalempin			FR

US-CL-CURRENT: 424/93.4; 424/184.1, 424/200.1, 424/203.1, 424/234.1, 424/242.1, 424/254.1, 424/93.2

### CLAIMS:

### What is claimed is:

- 1. <u>Bordetella</u> pertussis strain BPNX deposited under accession number I-1770 on Oct. 8, 1996, in the National Collection of Microorganism Cultures of "l'Institut Pasteur" (CNCM).
- 2. A pharmaceutical composition containing a pharmacologically efficient quantity of a Bordetella strain deficient in the production of pertussis toxin which, by elimination or deletion of the gene coding for the pertussis toxin, does not produce pertussis toxin, wherein said Bordetella strain expresses a hybrid protein comprising Bordetella pertussis filamentous hemagglutinin and a protein heterologous to said Bordetella pertussis filamentous hemagglutinin; wherein said deficient Bordetella strain induces a higher production of antibodies against said filamentous hemagglutinin than the wild-type parent Bordetella pertussis strain; and wherein said deficient Bordetella strain colonizes lungs of an animal to which said pharmaceutical composition is administered.
- 3. The pharmaceutical composition according to claim 2, wherein the heterologous protein comprises at least one epitope of a protein expressed upon infections of the upper or lower respiratory tract caused by a pathogen.
- 4. The pharmaceutical composition according to claim 2, wherein the heterologous protein comprises at least one epitope of a protein expressed by a pathogen upon a mucosal infection.

- 5. The pharmaceutical composition according to claim 2, wherein the heterologous protein comprises at least one epitope of a protein expressed by a pathogen upon a systemic infection.
- 6. The pharmaceutical composition according to claim 2, wherein said hybrid protein comprises said <u>Bordetella</u> pertussis filamentous hemagglutinin and Schistosoma mansoni glutathione-S-transferase.
- 7. The pharmaceutical composition according to claim 2, wherein the strain belongs to <u>Bordetella</u> pertussis.
- 8. The pharmaceutical composition comprising a pharmacologically efficient quantity of <u>Bordetella</u> pertussis strain BPNX deposited under accession number I-1770 on Oct. 8, 1996, in the National Collection of Microorganism Cultures of "l'Institut Pasteur" (CNCM).

Previous Doc Next Doc Go to Doc#

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L6: Entry 3 of 5

File: USPT

Jun 27, 1995

US-PAT-NO: 5427788

DOCUMENT-IDENTIFIER: US 5427788 A

\*\* See image for Certificate of Correction \*\*

TITLE: Pertussis toxin and use in vaccines

DATE-ISSUED: June 27, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rappuoli; Rino	Quercegrossa-Monteriggioni			IT
Nicosia; Alfredo	Siena			IT
Arico'; Maria B.	Quercegrossa			IT

US-CL-CURRENT: 424/190.1; 424/240.1, 424/254.1, 514/12

#### CLAIMS:

## We claim:

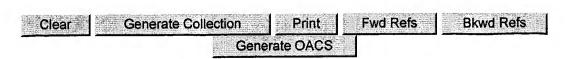
- 1. Composition for the stimulation of protection against infections of  $\underline{\text{Bordetella}}$  pertussis including at least an effective quantity of pertussis toxin obtained by chemical synthesis or from microorganisms transformed with molecules of  $\underline{\text{recombinant}}$  DNA containing the five genes that code for pertussis toxin.
- 2. In the process for the preparation of anti-pertussis vaccine containing detoxified pertussis toxin, the improvement which consists in substituting for said pertussis toxin the pertussis toxin obtained by the growth of a microorganism transformed by a hybrid plasmid obtained by the union of an expression vector and a cloned and sequenced Eco RI fragment of Bordetella pertussis chromosomal DNA with 4696 base pairs containing the genes which code for the five subunits of the pertussis toxin, comprising the sequence given in FIGS. 3 and 13.
- 3. The process of claim 2 wherein said Eco RI fragment or said further fragments are placed under the control of the regions with the hybrid plasmid which regulate their expression.
- 4. The process of claim 3 wherein said hybrid plasmid in pPT101 in which the Eco RI fragment is inserted in the Eco RI restriction site of pEMBL8.
- 5. The process of claim 2 wherein the transformed micro-organism is Escherichia coli.
- $6.\ \,$  The process of claim 5 wherein the transformed micro-organism is ATCC 67854.

Previous Doc

Next Doc

Go to Doc#

## **Hit List**



**Search Results** - Record(s) 1 through 10 of 29 returned.

## ☐ 1. Document ID: US 20040048253 A1

## Using default format because multiple data bases are involved.

L11: Entry 1 of 29

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040048253

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040048253 A1

TITLE: Molecules for diagnostics and therapeutics

PUBLICATION-DATE: March 11, 2004

## INVENTOR-INFORMATION:

THADMING THE CHARLE TON.				
NAME	CITY	STATE	COUNTRY	RULE-47
Panzer, Scott R.	Sunnyvale	CA	US	
Spiro, Peter A.	Palo Alto	CA	US	
Banville, Steven C.	Palo Alto	CA	US	
Shah, Purvi	San Jose	CA	US	
Chalup, Michael S.	Sunnyvale	CA	US	
Chang, Simon C	Mountain View	CA	US	
Chen, Alice J.	San Jose	CA	US	
D'Sa, Steven A.	East Palo	CA	US	
Amshey, Stefan	San Francisco	CA	US	
Dahl, Christopher E.	Fremont	CA	US	
Dam, Tam C.	San Jose	CA	US	
Daniels, Susan E.	Palo Alto	CA	US	
Dufour, Gerard E.	Castro Valley	CA	US	
Flores, Vincent	Union City	CA	US	
Fong, Willy T.	San Francisco	CA	US	
Greenawalt, Lila B.	San Jose	CA	US	
Jackson, Jennifer L.	Mountain View	CA	US	
Jones, Anissa L.	San Jose	CA	US	
Liu, Tommy F.	Daly City	CA	US	
Lincoln, Ann M. Roseberry	Redwood City	CA	US	
Rosen, Bruce H.	Menlo Park	CA	US	
Russo, Frank D.	Rossette Court Sunnyvale	CA	US	
Stockdreher, Theresa K.	Sunnyvale	CA	US	
Daffo, Abel	San Jose	CA	US	
Wright, Rachel J.	Mountain View	CA	US	
Yap, Pierre E.	Lafayette	CA	US	

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Yu, Jimmy Y.	Fremont	CA	US
Bradley, Diana L.	Soquel	CA	US
Bratcher, Shawn R.	Mountain View	CA	US
Chen, Wensheng	Mountain View	CA	US
Cohen, Howard J.	Palo Alto	CA	US
Hodgson, David M.	Ann Arbor	MI	US
Lincoln, Stephen E.	Redwood City	CA	US
Jackson, Stuart E.	Mountain View	CA	US

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 530/350, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
	2 I	Docume	nt ID:	115 20	020132753	Δ1	***************************************				***************************************	

PGPUB-DOCUMENT-NUMBER: 20020132753

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020132753 A1

TITLE: Nucleic acids, proteins, and antibodies

PUBLICATION-DATE: September 19, 2002

INVENTOR-INFORMATION:

CITY STATE COUNTRY RULE-47 NAME MD US Laytonsville Rosen, Craig A. Ruben, Steven M. Olney MD US Barash, Steven C. Rockville MD US

US-CL-CURRENT: 514/1; 435/320.1, 435/325, 435/6, 435/69.1, 536/23.1

Full	Title Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
	3. Docume	nt ID:	US 67	06494 B1	<del></del>						***************************************
L11:	Entry 3 of	29				File: U	SPT		Mar	16,	2004

US-PAT-NO: 6706494

DOCUMENT-IDENTIFIER: US 6706494 B1

TITLE: BASB028 polypeptides and polynucleotides encoding therefor from moraxella

catarrhalis

DATE-ISSUED: March 16, 2004

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

h e b b g e e e f e c ef b e

Ruelle; Jean-Louis

Limal

ΒE

US-CL-CURRENT: 435/69.1; 424/184.1, 424/185.1, 424/190.1, 424/192.1, 424/200.1, 424/234.1, 424/251.1, 435/320.1, 435/69.3, 536/23.1, 536/23.4, 536/24.3

Full   Title   Citation   Front   Review   Classif	ication Date Referen	se Justinija ir turi jūras ir turi ir t	Claims	KoutC	Drawt Dr
☐ 4. Document ID: US 6680182	D D 1				<del></del>
1. 4. Document 1D: US 6080182	2 B1				
L11: Entry 4 of 29	File:	USPT	Jan	20,	2004

US-PAT-NO: 6680182

DOCUMENT-IDENTIFIER: US 6680182 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Expression of recombinant fusion proteins in attenuated bacteria

DATE-ISSUED: January 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khan; Mohammed Anjam	Cambridge			GB
Villarreal-Ramos; Bernardo	Cambridge			GB
Hormaeche; Carlos Estenio	Newcastle upon Tyne			GB
Chatfield; Steven Neville	London			GB
Dougan; Gordon	London			GB

US-CL-CURRENT: 435/69.7; 424/191.1, 424/200.1, 424/258.1, 424/93.2, 435/69.3

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWIC	Draw D
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	5. ]	Documer	nt ID:	US 66	60261 B1						

US-PAT-NO: 6660261

DOCUMENT-IDENTIFIER: US 6660261 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Bordetella strain expressing the FHA hybrid, liposomes and vaccines

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mielcarek; Nathalie	Lille			FR
Locht; Camille	Wannehain			FR
Riveau; Gilles	Lille			FR
Poulain-Godefroy; Odile	Lambersart			FR
Capron; Andre	Phalempin			FR

## h e b b g e e e f e c ef b e

US-CL-CURRENT: <u>424/93.4</u>; <u>424/184.1</u>, <u>424/200.1</u>, <u>424/203.1</u>, <u>424/234.1</u>, <u>424/242.1</u>, 424/254.1, 424/93.2

6. Document ID: US 6559294 B1

L11: Entry 6 of 29

File: USPT

May 6, 2003

US-PAT-NO: 6559294

DOCUMENT-IDENTIFIER: US 6559294 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Chlamydia pneumoniae polynucleotides and uses thereof

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

COUNTRY NAME CITY STATE ZIP CODE FR Momtrouge Griffais; Remy Fairport NΥ Hoiseth; Susan K. Zagursky; Robert John Victor NY NY Metcalf; Benjamin J. Rochester Peek; Joel A. Pittsford NY Penfield NY Sankaran; Banumathi Geneseo NY Fletcher; Leah Diane

US-CL-CURRENT: 536/23.1; 435/320.1, 435/69.1, 435/70.1, 536/24.1

Full Title Citation Front Review Classification Date Reference (1997) Full Title Citation Front Review Classification Date Reference

## 7. Document ID: US 6492123 B1

L11: Entry 7 of 29

File: USPT

Dec 10, 2002

US-PAT-NO: 6492123

DOCUMENT-IDENTIFIER: US 6492123 B1

TITLE: Multivalent and multispecific binding proteins and their use

DATE-ISSUED: December 10, 2002

INVENTOR-INFORMATION:

CITY STATE ZIP CODE COUNTRY NAME GB Holliger; Kaspar-Philip Cambridge GB Griffiths; Andrew David Cambridge BE Hoogenboom; Hendricus Renerus Jacobus Matheus Hasselt SE Malmqvist; Magnus Uppsala Marks; James David Kensington CA

h eb bgeeef ec ef be

Nov 5, 2002

McGuinness; Brian Timothy	Cambridge	GB
Pope; Anthony Richard	Cambridge	GB
Prospero; Terence Derek	Cambridge	GB
Winter; Gregory Paul	Cambridge	GB

US-CL-CURRENT: 435/7.1; 424/135.1, 530/387.1, 530/387.3


File: USPT

US-PAT-NO: 6475754

L11: Entry 8 of 29

DOCUMENT-IDENTIFIER: US 6475754 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Polynucleotides encoding Bordatella bronchiseptica fimbrial proteins (FimN), vectors, and expression systems therefor

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY
Bemis; David A. Maryville TN
Kania; Stephen A. Powell TN
Moore; Robert N. Knoxville TN

US-CL-CURRENT: 435/69.1; 435/252.3, 435/254.11, 435/257.3, 435/320.1, 435/325, 435/69.7, 435/70.1, 435/71.1, 530/350, 536/23.4, 536/23.7, 536/24.32, 536/24.33

Full Title Citation Front Review Cla	ssification Date Reference	Claims   KMC   Draw (
☐ 9. Document ID: US 63506	12 B1	
L11: Entry 9 of 29	File: USPT	Feb 26, 2002

US-PAT-NO: 6350612

DOCUMENT-IDENTIFIER: US 6350612 B1

TITLE: Isolation and expression of DNA sequence encoding the five subunits of

Bordetella pertussis toxin

DATE-ISSUED: February 26, 2002

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Rappuoli; Rino Quercegrossa-Monteriggioni IT
Nicosia; Alfredo Siena IT
Arico; Maria Beatrice Quercegrossa IT

h e b b g e e e f e c ef b e

US-CL-CURRENT: 435/455; 435/252.1, 435/320.1, 536/23.7

Full Title	e   Citation   Froi	nt Review	Classification	Date	Reference			Claims	KiMC	Drawi De
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	ry 10 of 29		,310007 21		File:	USPT		Nov	13,	2001

US-PAT-NO: 6316609

DOCUMENT-IDENTIFIER: US 6316609 B1

TITLE: Nucleotide sequence of Escherichia coli pathogenicity islands

DATE-ISSUED: November 13, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Dillon; Patrick J. Gaithersburg MD Choi; Gil H. Rockville MD

Welch; Rodney A. Madison WI

US-CL-CURRENT: <u>536/23.1</u>; <u>435/252.3</u>, <u>435/252.33</u>, <u>435/320.1</u>, <u>435/325</u>, <u>536/24.3</u>, <u>536/24.32</u>

Full	Title Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Drawi De
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	Terms					Doc	uments				
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## **Hit List**

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Search Results - Record(s) 11 through 20 of 29 returned.

☐ 11. Document ID: US 6284256 B1

Using default format because multiple data bases are involved.

L11: Entry 11 of 29

File: USPT

Sep 4, 2001

US-PAT-NO: 6284256

DOCUMENT-IDENTIFIER: US 6284256 B1

TITLE: Bordetella bronchiseptica vaccine

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Savelkoul; Paul Weesp NL Gaastra; Willem Weesp NL

US-CL-CURRENT: 424/253.1; 424/240.1, 424/254.1, 435/69.1, 435/69.7, 514/2, 530/350

Full Title Citation Front Review Classification Date Reference

☐ 12. Document ID: US 6264954 B1

L11: Entry 12 of 29 File: USPT Jul 24, 2001

US-PAT-NO: 6264954

DOCUMENT-IDENTIFIER: US 6264954 B1

TITLE: Haemophilus outer membrane protein

DATE-ISSUED: July 24, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Richmond Hill CA Chong; Pele Thomas; Wayne Nedlands ΑU Yang; Yan Ping Willowdale CA Loosmore; Sheena Aurora CA Sia; Dw.o slashed. Yuan Charles Thornhill CA Klein; Michel Willowdale CA

US-CL-CURRENT: 424/190.1; 424/185.1, 424/192.1, 424/193.1, 424/197.11, 424/203.1,

h e b b cg b cc e

424/234.1, 424/256.1, 435/69.1, 435/69.3, 435/69.7, 530/300, 530/350, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Topic | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Front | Review | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Topic | Title | Citation | Classification | Date | Reference | Title | Citation | Classification | Date | Reference | Title | Citation | Classification | Cla

☐ 13. Document ID: US 6218141 B1

L11: Entry 13 of 29

File: USPT

Apr 17, 2001

US-PAT-NO: 6218141

DOCUMENT-IDENTIFIER: US 6218141 B1

TITLE: High molecular weight surface proteins of non-typeable haemophilus

DATE-ISSUED: April 17, 2001

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Barenkamp; Stephen J. Webster Grove MO

US-CL-CURRENT: 435/69.1; 424/185.1, 424/256.1, 435/69.3, 435/71.1, 435/71.2,

530/350

Full	Title	Citation	Front	Review Classification	Date Reference		Claims	KWIC	Drawe (
							•		,

☐ 14. Document ID: US 6140082 A

L11: Entry 14 of 29

File: USPT

Oct 31, 2000

US-PAT-NO: 6140082

DOCUMENT-IDENTIFIER: US 6140082 A

TITLE: Expression of gene products from genetically manipulated strains of

bordetella

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Loosmore; Sheena M. Aurora CA

Yacoob; Reza Khayyam Mississauga CA Zealey; Gavin Ross Thornhill CA Klein; Michel Henri Willowdale CA

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/69.8, 530/350, 536/23.1

Full Title Citation Front Review Classification Date Reference Distribution Classification De

## ☐ 15. Document ID: US H001892 H

h e b b cg b cc e

L11: Entry 15 of 29

File: USPT

Oct 3, 2000

US-PAT-NO: H001892

DOCUMENT-IDENTIFIER: US H001892 H

TITLE: High volume nutrient based yeast two-hybrid assay for the identification of

specific protein:protein interacting inhibitors

DATE-ISSUED: October 3, 2000

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Klein; Ronald D. Buysse; Jerry M.

Portage

Schoolcraft

MΙ ΜI

US-CL-CURRENT: 435/69.1

Full	Title	Citation Front	Review Classification	Date	Reference		Claims	KMME	Draw, De
	nositations of consequences						•		······································
	16.	Document II	D: US 6083743 A						
L11:	Entr	y 16 of 29			File:	USPT	Jul	4,	2000

US-PAT-NO: 6083743

DOCUMENT-IDENTIFIER: US 6083743 A

TITLE: Haemophilus outer membrane protein

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

COUNTRY STATE ZIP CODE NAME CITY CA Richmond Hill Chong; Pele ΑU Nedlands Thomas; Wayne CA Yang; Yan Ping Willowdale CA Loosmore; Sheena Aurora Sia; Dwe Yuan Charles Thornhill CA CA Klein; Michel Willowdale

US-CL-CURRENT: 435/320.1; 424/185.1, 424/192.1, 424/193.1, 424/197.11, 424/203.1, 424/234.1, 424/256.1, 435/69.1, 435/69.3, 435/69.7, 530/300, 530/350, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KMC	Draw D
П	17	Docum	ent ID	) US 6	040427 A						

US-PAT-NO: 6040427

DOCUMENT-IDENTIFIER: US 6040427 A

TITLE: Vaccine

DATE-ISSUED: March 21, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Locht; Camille Wannehaing FR
Lobet; Yves Rixensart BE

US-CL-CURRENT:  $\underline{530/350}$ ;  $\underline{424/200.1}$ ,  $\underline{435/252.3}$ ,  $\underline{435/252.33}$ ,  $\underline{435/320.1}$ ,  $\underline{435/471}$ ,

435/69.1, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWC	Draw, De
	18.	Docum	ent ID	): US 6	036960 A		**************************************				
L11:	Entry	y 18 of	29				File:	USPT	Mar	14,	2000

US-PAT-NO: 6036960

DOCUMENT-IDENTIFIER: US 6036960 A

TITLE: Filamentous hemagglutinin of B. pertussis

DATE-ISSUED: March 14, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Relman; David A. Menlo Park CA 94025

Domenighini; Mario 53100 Siena IT Rappuoli; Rino Quercegrossa, 53100 Siena IT

Falkow; Stanley Portola Valley CA 94025

US-CL-CURRENT: 424/253.1; 435/252.3, 435/253.1, 435/320.1, 435/69.1, 435/69.3, 435/7.1, 435/91.1, 536/22.1, 536/23.1, 536/23.7, 536/24.32

Full Title	Citation Front	Review	Classification	Date	Reference		Claims	KWAC	Drawn D
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☐ 19.	Document II	D: US 5	998168 A						
L11: Enti	ry 19 of 29				File:	USPT	Dec	7,	1999

US-PAT-NO: 5998168

DOCUMENT-IDENTIFIER: US 5998168 A

TITLE: Expression of gene products from genetically manipulated strains of

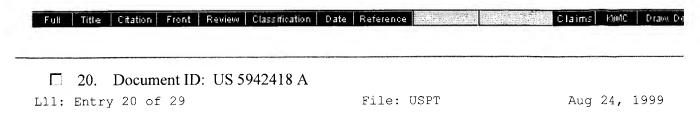
bordetella

DATE-ISSUED: December 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loosmore; Sheena M.	Aurora			CA
Yacoob; Reza Khayyam	Mississauga			CA
Zealey; Gavin Ross	Thornhill			CA
Klein; Michel Henri	Willowdale			CA

US-CL-CURRENT: 435/69.1; 435/243, 435/252.3, 435/325, 530/350, 536/23.1



US-PAT-NO: 5942418

DOCUMENT-IDENTIFIER: US 5942418 A

TITLE: Expression of gene products from genetically manipulated strains of

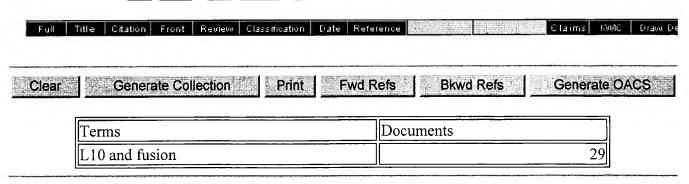
<u>Bordetella</u>

DATE-ISSUED: August 24, 1999

INVENTOR-INFORMATION:

ZIP CODE COUNTRY CITY STATE NAME CA Loosmore; Sheena M. Aurora CA Yacoob; Reza K. Mississauga CA Zealey; Gavin R. Thornhill Willowdale CA Klein; Michel H.

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 536/23.1, 536/24.1



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Search Results - Record(s) 21 through 29 of 29 returned.

☐ 21. Document ID: US 5939064 A

Using default format because multiple data bases are involved.

L11: Entry 21 of 29

File: USPT

Aug 17, 1999

US-PAT-NO: 5939064

DOCUMENT-IDENTIFIER: US 5939064 A

TITLE: Bordetella bronchiseptica vaccine

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Savelkoul; Paul Weesp NL Gaastra; Willem Weesp NL

US-CL-CURRENT: 424/93.2; 435/320.1, 435/455, 435/69.1, 514/44, 536/23.1

Full Title Citation Front Review Classification Date Reference Citation Front Review Classification Date Reference

☐ 22. Document ID: US 5932714 A

L11: Entry 22 of 29 File: USPT Aug 3, 1999

US-PAT-NO: 5932714

DOCUMENT-IDENTIFIER: US 5932714 A

TITLE: Expression of gene products from genetically manipulated strains of

Bordetella

DATE-ISSUED: August 3, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY CA Loosmore; Sheena M. Aurora Yacoob; Reza Khayyam Mississauga CA Zealey; Gavin Ross Thornhill CA Klein; Michel Henri Willowdale CA

US-CL-CURRENT: 536/23.7

Jul 27, 1999

Full Title Citation Front Review Classification Date Reference The Review Claims KNMC Draw De Care De

File: USPT

US-PAT-NO: 5928651

L11: Entry 23 of 29

DOCUMENT-IDENTIFIER: US 5928651 A

TITLE: Gene encoding high molecular surface protein-2 non-typeable haemophilus

DATE-ISSUED: July 27, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Barenkamp; Stephen J. Webster Grove MO

US-CL-CURRENT: 424/256.1; 424/184.1, 435/69.1, 435/69.3, 536/22.1, 536/23.1,

536/23.7

Full Title Citation Front Review Classificatio	n Date	Reference	Claims KMC Draw. De
☐ 24. Document ID: US 5837242 A			
L11: Entry 24 of 29		File: USPT	Nov 17, 1998

US-PAT-NO: 5837242

DOCUMENT-IDENTIFIER: US 5837242 A

TITLE: Multivalent and multispecific binding proteins, their manufacture and use

DATE-ISSUED: November 17, 1998

INVENTOR-INFORMATION:

NAME	CITY STATE ZI	P CODE COUNTRY
Holliger; Kaspar-Philipp	Cambridge	GB
Griffiths; Andrew David	Cambridge	GB
Hoogenboom; Hendricus Renerus Jacobus Matheus	Hasselt	BE
Malmqvist; Magnus	Upsala	SE
Marks; James David	Kensington CA	
McGuinness; Brian Timothy	Cambridge	GB
Pope; Anthony Richard	Cambridge	GB
Prospero; Terence Derek	Cambridge	GB
Winter; Gregory Paul	Cambridge	GB

US-CL-CURRENT: 424/136.1; 435/320.1, 435/328, 435/69.7, 530/387.3, 530/412, 530/413, 536/23.4, 536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KMIC	Drawt De
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☐ 25. Document ID: US 5786189 A

L11: Entry 25 of 29

File: USPT

Jul 28, 1998

US-PAT-NO: 5786189

DOCUMENT-IDENTIFIER: US 5786189 A

TITLE: Vaccine

DATE-ISSUED: July 28, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Locht; Camille Wannehain FR
Lobet; Yves Rixensart BE

US-CL-CURRENT: 424/200.1; 424/254.1, 435/193, 435/252.3, 435/252.31, 435/252.33,

435/252.35, 435/254.2, 435/320.1, 435/69.1, 530/403, 536/23.7

# Full Title Citation Front Review Classification Date Reference Fig. 1997 Fig. 1997 Claims Hould Draw De

## ☐ 26. Document ID: US 5785971 A

L11: Entry 26 of 29

File: USPT

Jul 28, 1998

US-PAT-NO: 5785971

DOCUMENT-IDENTIFIER: US 5785971 A

TITLE: Pertussis toxin and use in vaccines

DATE-ISSUED: July 28, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Rappuoli; Rino Quercegrossa-Monteriggioni IT Nicosia; Alfredo Siena IT

Arico; Maria Beatrice Quercegrossa IT

US-CL-CURRENT: 424/190.1; 424/240.1, 424/254.1, 514/12, 530/350



## ☐ 27. Document ID: US 5643747 A

L11: Entry 27 of 29 File: USPT Jul 1, 1997

US-PAT-NO: 5643747

DOCUMENT-IDENTIFIER: US 5643747 A

TITLE: Genes for the export of pertussis holotoxin

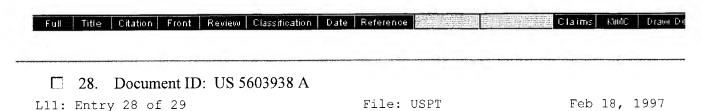
DATE-ISSUED: July 1, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Baker; Steven M. Rochester NY Deich; Robert A. Rochester NY

US-CL-CURRENT: 435/69.1; 435/252.3, 435/252.33, 435/320.1, 536/23.7



US-PAT-NO: 5603938

DOCUMENT-IDENTIFIER: US 5603938 A

TITLE: High molecular weight surface proteins of non-typeable haemophilus

DATE-ISSUED: February 18, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Barenkamp; Stephen J. Webster Grove MO

US-CL-CURRENT: 424/256.1; 435/69.1, 435/69.3, 536/22.1, 536/23.1, 536/23.7,

536/24.1

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KWIC	Draint D
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	29.	Docum		. 033	427788 A						

US-PAT-NO: 5427788

DOCUMENT-IDENTIFIER: US 5427788 A

\*\* See image for Certificate of Correction \*\*

TITLE: Pertussis toxin and use in vaccines

DATE-ISSUED: June 27, 1995

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Rappuoli; Rino Quercegrossa-Monteriggioni IT
Nicosia; Alfredo Siena IT
Arico'; Maria B. Quercegrossa IT

US-CL-CURRENT: 424/190.1; 424/240.1, 424/254.1, 514/12

Full	Title	Citation	Front	Review	Classification	Date	Reference		Claims	KudC	Drawi De
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Chaudhary, Divya Long, Andrew Andover Chelmsford MA MA US US

US-CL-CURRENT: 514/12; 514/44

Full Title Citation Front Review Classification Date Reference Sequences Attachments Claims NMC Draw De

## 3. Document ID: US 6660261 B1

L5: Entry 3 of 9

File: USPT

Dec 9, 2003

US-PAT-NO: 6660261

DOCUMENT-IDENTIFIER: US 6660261 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Bordetella strain expressing the FHA hybrid, liposomes and vaccines

DATE-ISSUED: December 9, 2003

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY CITY NAME Lille FR Mielcarek; Nathalie FR Wannehain Locht; Camille FRRiveau; Gilles Lille FR Lambersart Poulain-Godefroy; Odile FR Phalempin Capron; Andre

US-CL-CURRENT: <u>424/93.4</u>; <u>424/184.1</u>, <u>424/200.1</u>, <u>424/203.1</u>, <u>424/234.1</u>, <u>424/234.1</u>, <u>424/242.1</u>, <u>424/254.1</u>, <u>424/93.2</u>

Full Title Citation Front Review Classification Date Reference Sequences Attackments Claims KMC Draw De

## 4. Document ID: US 6548265 B2

L5: Entry 4 of 9

File: USPT

Apr 15, 2003

US-PAT-NO: 6548265

DOCUMENT-IDENTIFIER: US 6548265 B2

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Hultgren; Scott Ballwin MO

Kuehn; Meta Berkeley CA Xu; Zheng Blue Bell PA

Ogg; Derek Uppsala SE

h eb b g ee ef e e ef b e

Harris; Mark Uppsala SE Lepisto; Matti Lund SE

Jones; Charles Hal Saint Louis MO

Kihlberg; Jan Dalby SE

US-CL-CURRENT: 435/7.37; 424/184.1, 424/234.1, 424/241.1, 424/242.1, 435/243, 435/252.8, 435/7.32, 703/11

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	5.	Docume	nt ID:	US 64	20127 B1							

L5: Entry 5 of 9

File: USPT

Jul 16, 2002

Nov 28, 2000

US-PAT-NO: 6420127

DOCUMENT-IDENTIFIER: US 6420127 B1

TITLE: Compounds and pharmaceutical compositions for the treatment and prophylaxis of bacterial infections

DATE-ISSUED: July 16, 2002

INVENTOR-INFORMATION:

ZIP CODE COUNTRY STATE CITY NAME MO Ballwin Hultgren; Scott Berkeley CA Kuehn; Meta Blue Bell PΑ Xu; Zheng SE Uppsala Ogg; Derek SE Uppsala Harris; Mark SE Lepisto; Matti Lund Jones; Charles Hal Saint Louis MO SE Kihlberg; Jan Dalby

US-CL-CURRENT: 435/7.37; 424/241.1, 424/242.1, 424/257.1, 435/849

Full	Title	e   Citation	Front	Review	Classification	Date	Reference	Sequence	s Affect of emis-	Claims	KOME	Diraini.
	6.	Docume	nt ID:	US 61	53396 A							

File: USPT

US-PAT-NO: 6153396

L5: Entry 6 of 9

DOCUMENT-IDENTIFIER: US 6153396 A

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: November 28, 2000

INVENTOR-INFORMATION:

h eb b g ee ef b e

Dec 14, 1999

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		
Kuehn; Meta	Berkeley	CA		
Xu; Zheng	Blue Bell	PA		
Ogg; Derek	Uppsala			SE
Harris; Mark	Uppsala			SE
Lepisto ; Matti	Lund			SE
Kihlberg; Jan	Dalby			SE
Jones; Charles Hal	St. Louis	MO		

US-CL-CURRENT: 435/7.32; 424/241.1, 424/242.1, 424/257.1, 435/7.37, 435/849

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File: USPT

US-PAT-NO: 6001823

L5: Entry 7 of 9

DOCUMENT-IDENTIFIER: US 6001823 A

TITLE: Treatment or prophylaxis of diseases caused by pilus-forming bacteria

DATE-ISSUED: December 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hultgren; Scott	Ballwin	MO		
Kuehn; Meta	Berkeley	CA	94705	
Xu; Zheng	Blue Bell	PA	19422	
Ogg; Derek	Uppsala			SE
Harris; Mark	S-756 45 Uppsala			SE
Lepisto ; Matti	S-224 73 Lund			SE
Kihlberg; Jan	S-240 10 Dalby			SE
Jones; Charles Hal	St. Louis	MO	63110	

US-CL-CURRENT:  $\underline{514}/\underline{99}$ ;  $\underline{514}/\underline{382}$ ,  $\underline{514}/\underline{459}$ ,  $\underline{514}/\underline{460}$ ,  $\underline{548}/\underline{252}$ ,  $\underline{548}/\underline{253}$ ,  $\underline{549}/\underline{216}$ ,  $\underline{549}/\underline{416}$ ,  $\underline{549}/\underline{417}$ ,  $\underline{549}/\underline{419}$ ,  $\underline{549}/\underline{420}$ 

Full   Title   Citation   Front   Review   C	lassification   Date   Reference   Sequences	Apriments Claims NMC Draw E
☐ 8. Document ID: US 570:	5361 A	
L5: Entry 8 of 9	File: USPT	Jan 6, 1998

US-PAT-NO: 5705361

DOCUMENT-IDENTIFIER: US 5705361 A

TITLE: Hybrid transposon with PT operon, plasmids and bacterial strains therefor

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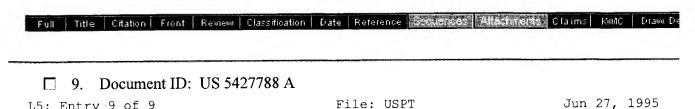
DATE-ISSUED: January 6, 1998

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY NAME CITY

DΕ Brunswick Walker; Mark DΕ Brunswick Timmis; Kenneth

US-CL-CURRENT: 435/69.3; 435/252.3, 435/320.1



US-PAT-NO: 5427788

L5: Entry 9 of 9

DOCUMENT-IDENTIFIER: US 5427788 A

\*\* See image for Certificate of Correction \*\*

TITLE: Pertussis toxin and use in vaccines

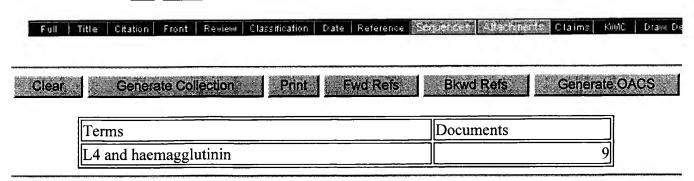
DATE-ISSUED: June 27, 1995

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY NAME CITY

ΙT Quercegrossa-Monteriggioni Rappuoli; Rino Nicosia; Alfredo ΙT Siena IT Arico'; Maria B. Quercegrossa

US-CL-CURRENT: 424/190.1; 424/240.1, 424/254.1, 514/12



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L1: Entry 1 of 1 File: USPT Dec 9, 2003

US-PAT-NO: 6660261

DOCUMENT-IDENTIFIER: US 6660261 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Bordetella strain expressing the FHA hybrid, liposomes and vaccines

DATE-ISSUED: December 9, 2003

#### INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mielcarek; Nathalie	Lille			FR
Locht; Camille	Wannehain			FR
Riveau; Gilles	Lille			FR
Poulain-Godefroy; Odile	Lambersart			FR
Capron; Andre	Phalempin			FR

US-CL-CURRENT: <u>424/93.4</u>; <u>424/184.1</u>, <u>424/200.1</u>, <u>424/203.1</u>, <u>424/234.1</u>, <u>424/242.1</u>, <u>424/254.1</u>, <u>424/93.2</u>

CLAIMS:

#### What is claimed is:

- 1. Bordetella pertussis strain BPNX deposited under accession number I-1770 on Oct. 8, 1996, in the National Collection of Microorganism Cultures of "l'Institut Pasteur" (CNCM).
- 2. A pharmaceutical composition containing a pharmacologically efficient quantity of a Bordetella strain deficient in the production of pertussis toxin which, by elimination or deletion of the gene coding for the pertussis toxin, does not produce pertussis toxin, wherein said Bordetella strain expresses a hybrid protein comprising Bordetella pertussis filamentous hemagglutinin and a protein heterologous to said Bordetella pertussis filamentous hemagglutinin; wherein said deficient Bordetella strain induces a higher production of antibodies against said filamentous hemagglutinin than the wild-type parent Bordetella pertussis strain; and wherein said deficient Bordetella strain colonizes lungs of an animal to which said pharmaceutical composition is administered.
- 3. The pharmaceutical composition according to claim 2, wherein the heterologous protein comprises at least one epitope of a protein expressed upon infections of the upper or lower respiratory tract caused by a pathogen.
- 4. The pharmaceutical composition according to claim 2, wherein the heterologous protein comprises at least one epitope of a protein expressed by a pathogen upon a mucosal infection.
- 5. The pharmaceutical composition according to claim 2, wherein the heterologous protein

comprises at least one epitope of a protein expressed by a pathogen upon a systemic infection.

- 6. The pharmaceutical composition according to claim 2, wherein said hybrid protein comprises said Bordetella pertussis filamentous hemagglutinin and Schistosoma mansoni glutathione-Stransferase.
- 7. The pharmaceutical composition according to claim 2, wherein the strain belongs to Bordetella pertussis.
- 8. The pharmaceutical composition comprising a pharmacologically efficient quantity of Bordetella pertussis strain BPNX deposited under accession number I-1770 on Oct. 8, 1996, in the National Collection of Microorganism Cultures of "l'Institut Pasteur" (CNCM).

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L5: Entry 9 of 9 File: USPT Jun 27, 1995

US-PAT-NO: 5427788

DOCUMENT-IDENTIFIER: US 5427788 A

\*\* See image for Certificate of Correction \*\*

TITLE: Pertussis toxin and use in vaccines

DATE-ISSUED: June 27, 1995

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

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Nicosia; Alfredo Siena IT
Arico'; Maria B. Quercegrossa IT

US-CL-CURRENT: 424/190.1; 424/240.1, 424/254.1, 514/12

CLAIMS:

### We claim:

- 1. Composition for the stimulation of protection against infections of <u>Bordetella</u> pertussis including at least an effective quantity of pertussis toxin obtained by chemical synthesis or from microorganisms transformed with molecules of <u>recombinant</u> DNA containing the five genes that code for pertussis toxin.
- 2. In the process for the preparation of anti-pertussis vaccine containing detoxified pertussis toxin, the improvement which consists in substituting for said pertussis toxin the pertussis toxin obtained by the growth of a micro-organism transformed by a hybrid plasmid obtained by the union of an expression vector and a cloned and sequenced Eco RI fragment of <u>Bordetella</u> pertussis chromosomal DNA with 4696 base pairs containing the genes which code for the five subunits of the pertussis toxin, comprising the sequence given in FIGS. 3 and 13.
- 3. The process of claim 2 wherein said Eco RI fragment or said further fragments are placed under the control of the regions with the hybrid plasmid which regulate their expression.
- 4. The process of claim 3 wherein said hybrid plasmid in pPT101 in which the Eco RI fragment is inserted in the Eco RI restriction site of pEMBL8.
- 5. The process of claim 2 wherein the transformed micro-organism is Escherichia coli.
- 6. The process of claim 5 wherein the transformed micro-organism is ATCC 67854.

## **Hit List**

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## **Search Results** - Record(s) 1 through 9 of 9 returned.

☐ 1. Document ID: US 20040047867 A1

Using default format because multiple data bases are involved.

L5: Entry 1 of 9

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040047867

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040047867 A1

TITLE: Adjuvant composition comprising FHA protein or a fragment of FHA protein in

its free form

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Capron, Andre Phalempin FR
Locht, Camille Bruxelles BE
Menozzi, Franco Mons-Hyon BE
Poulain-Godefroy, Odile Lambersart FR
Riveau, Gilles Phalempin FR

US-CL-CURRENT: <u>424/184.1</u>

Full Title	Citation Front	Review Class	fication Date	Reference	Sequences	Attachments	Claims	K004C	Draw, De

## ☐ 2. Document ID: US 20020068696 A1

L5: Entry 2 of 9

File: PGPB

Jun 6, 2002

PGPUB-DOCUMENT-NUMBER: 20020068696

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020068696 A1

TITLE: Trade molecules and uses related thereto

PUBLICATION-DATE: June 6, 2002

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Wood, Clive Boston MA US

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## **WEST Search History**

Hide Items (Restore Clear Cancel

DATE: Monday, April 19, 2004

Hide?	Set Nam	<u>e Query</u>	Hit Count
	DB=PG	SPB, USPT; PLUR=YES;	OP = OR
0.0 (0)	L5	L4 and haemagglutinin	9
	L4	L3 and recombinant	53
	L3	L2 and bordetella	70
	L2	locht	151
	DB=US	PT; PLUR=YES; OP=OF	?
	L1	6660261	1

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